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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,942	01/31/2006	Robert Kagermeier	2003P07355WOUS	9408

7590 04/27/2009
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EXAMINER

CERULLO, LILIANA P

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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04/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/566,942	Applicant(s) KAGERMEIER ET AL.	
	Examiner LILIANA CERULLO	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In an amendment dated, 3/05/2009, the Applicant amended claims 1-3.

Currently claims 1-18 are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-7, 9-14 and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita et al. in US 2003/0218720 (hereinafter Morita) in view of Kienzle, III et al. in US 6,285,905 (hereinafter Kienzle) and Tomasi et al. in US 2002/0021287 (hereinafter Tomasi).

3. Regarding **claim 1**, Morita teaches a control unit (3D apparatus of para. 3) comprising,

a sterilizable screen (Figs. 21-22 and para. 108, sterilized image panel 169), which is free of electronic components and on which a user control field is reproducible (as shown in Figs. 21-22, and taught in para. 108 and 103, the screen is a disposable projection panel where an image is projected, and as shown, it's only positioned mechanically in front of the viewer),

a detection device (Fig. 16 and para. 86, position detection camera 145, and projection apparatus 140) for detecting a change in a position of an object relative to the

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screen (para 86-88 teach the detection camera 145 picks up the markers 146, 147 and 148, and specifically para. 88 teaches that when the position of the marker 148 and the icon 143 are the same, the machine is controlled).

Morita fails to teach a sterilizable protective housing for the detection device.

However, Kienzle teaches an apparatus for surgery (Kienzle, col. 1 lines 14-22) where an arm used in close proximity to the patient during surgery (Kienzle, Fig. 1, 113) is covered with a sterile drape (Kienzle, Fig. 10 and col. 16 lines 29-33. Note that the sterile drape is mechanically attached to the arm by elastics 198). Furthermore, Kienzle teaches switching (activating) a selection based on voice command (Kienzle, col. 23 lines 10-13).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention, to cover the arm (as taught by Kienzle) holding Morita's projection device in order to maintain sterile all equipment used during surgery. Furthermore, it would also have been obvious to one of ordinary skill in the art at the time of the invention, to activate a selection based on voice command (as taught by Kienzle), including switching on the detection device, in order to provide the surgeon with more features to control the device, that do not require the surgeon any extra movement of the hands.

Nonetheless, Morita in view of Kienzle fail to teach the sterilizable protective housing receiving the detection device. However, Tomasi teaches an input device that projects the display and detects input at the displayed surface (Tomasi, Fig. 1A) and the display projector and sensor are both part of the display (Tomasi, Fig. 1A, 140 is the display, 20 is the emitter projecting the virtual input device 50 per para. 30, and detector

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60 per para. 41). Therefore, it would have also been obvious to one of ordinary skill in the art at the time of the invention, to use an input device as taught by Tomasi, in Morita's control unit, and thus obtain the benefit of an inexpensive input device that can be operated from the same power source (Tomasi, para. 101) and also obtain the benefit of a system that improves on separate camera/image-detector optical system by ignoring ambient light (as taught by Tomasi in para. 37). By doing such combination, Morita's detection system would be part of the projection apparatus (as taught by Tomasi in Fig. 1A, which is equivalent to Morita projector 140 of Fig. 16) and thus, the projection apparatus would be covered by Kienzle's protective housing.

4. Regarding **claim 2**, Morita in view of Kienzle and Tomasi teach the screen to be a projection screen (Morita, para. 108), and the detection device (Morita, Fig. 16 and para. 86, projector 140, which correspond to Tomasi's input device Fig. 1A) comprising a projection/detection unit (Morita, Fig. 16 projector 140 and Tomasi's Fig. 1A) which includes a projection device for projecting the user control field (Morita, projector in projection apparatus 140 projects image onto screen per para. 41) onto the projection screen (as shown in Morita's Fig. 3 and 16).

5. Regarding **claim 3**, Morita teaches a control unit (3D apparatus of para. 3) comprising,

a sterilizable screen (Figs, 21-22 and para. 108, sterilized image panel 169),
which is free of electronic components and on which a user control field is reproducible

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(as shown in Figs. 21-22, and taught in para. 108 and 103, the screen is a disposable projection panel where an image is projected, and as shown, it's only positioned mechanically in front of the viewer),

a detection device (Fig. 16 and para. 86, position detection camera 145, and projection apparatus 140) for detecting a change in a position of an object relative to the screen (para 86-88 teach the detection camera 145 picks up the markers 146, 147 and 148, and specifically para. 88 teaches that when the position of the marker 148 and the icon 143 are the same, the machine is controlled), and

a proximity switch (detection camera 145) for switching the projection/detection unit upon the approach of an object to the projection screen (para 88 where the detection camera 145 picks up when the position of the marker 148 and the icon 143 are the same, and any function of the machine starts or stops).

Morita fails to teach a sterilizable protective housing for the detection device, and using the proximity switch for turning on the projection/detection unit.

However, Kienzle teaches an apparatus for surgery (col. 1 lines 14-22) where a mechanical arm used during surgery (Fig. 1, 113) is covered with a sterile drape (Fig. 10 and col. 16 lines 29-33. Note that the sterile drape is mechanically attached to the arm by elastics 198).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention, to cover the arm (as taught by Kienzle) holding Morita's projection device in order to maintain sterile all equipment used during surgery. Furthermore, it would also have been obvious to one of ordinary skill in the art at the time of the invention, to

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switch on the projection/detection unit upon close proximity of an object with the icons on the projection screen (as taught by Morita) because this would allow the user to turn on the machine without the need of a console (Morita, para. 89).

Nonetheless, Morita in view of Kienzle fail to teach the sterilizable protective housing receiving the detection device. However, Tomasi teaches an input device that projects the display and detects input at the displayed surface (Tomasi, Fig. 1A) and the display projector and sensor are both part of the display (Tomasi, Fig. 1A, 140 is the display, 20 is the emitter projecting the virtual input device 50 per para. 30, and detector 60 per para. 41). Therefore, it would have also been obvious to one of ordinary skill in the art at the time of the invention, to use an input device as taught by Tomasi, in Morita's control unit, and thus obtain the benefit of an inexpensive input device that can be operated from the same power source (Tomasi, para. 101) and also obtain the benefit of a system that improves on separate camera/image-detector optical system by ignoring ambient light (as taught by Tomasi in para. 37). By doing such combination, Morita's detection system would be part of the projection apparatus (as taught by Tomasi in Fig. 1A, which is equivalent to Morita projector 140 of Fig. 16) and thus, the projection apparatus would be covered by Kienzle's protective housing.

6. Regarding **claims 4, 10 and 11**, Morita in view of Kienzle and Tomasi teach a radiation source cooperating with the detection device (Tomasi para. 37 optical energy at fixed frequency).

Regarding **claims 5 and 12**, Morita in view of Kienzle and Tomasi the radiation source to be infrared (Tomasi, para. 34 lines 21-22).

7. Regarding **claims 6, 9, 13 and 16-18**, Morita in view of Kienzle and Tomasi teach the control unit further comprising a transmission unit (Tomasi, Fig. 1A processor 90 and display 140) for wireless communication (Tomasi, para. 33 lines 21-24) with a medical device (Morita's Fig. 16, projector 140, which corresponds to Tomasi's display 140) to be triggered in response to the detection device (Tomasi, para. 33) or wireless communication (Tomasi, para. 33 lines 21-24) with the detection device (Tomasi, Fig. 1A, display 140 includes detector 60).

8. Regarding **claims 7 and 14**, Morita teaches the control unit further comprising a device base (Fig. 16, arm 140) pivotably connected to the screen (as shown in Fig. 16).

9. **Claims 8 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita et al. in US 2003/0218720 in view of Kienzle, III et al. in US 6,285,905 and Tomasi et al. in US 2002/0021287 as applied above, in further view of Sauer et al. in US 6,307,674 (hereinafter Sauer).

Morita in view of Kienzle and Tomasi do not teach the device base comprising a magnetic base. However, Sauer teaches a magnetic base (Sauer, Figs. 3a-b and col. 11 lines 57-67) used to hold a sterile screen (col. 12 lines 37-39) in a surgery room (Sauer, col. 13 lines 59-65). Thus, it would have been obvious to one of ordinary skill in

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the art at the time of the invention, to use Sauer's magnetic base, to hold Morita's sterile screen to Morita's holding arm (Morita, Fig. 16) in order to easily and accurately place the screen in the optimal viewing position (as taught by Sauer in col. 12 lines 65-67) given that it is Morita's objective to provide a screen that can be quickly removed (Morita, para. 104).

Response to Arguments

Applicant's arguments with respect to **claims 1, 3, 6, 9, 13, 16, 17 and 18** have been considered but are moot in view of the new ground(s) of rejection.

Regarding claims 1 and 3, please note that a mechanical connection between the sterile drape and the arm in Kienzle (Kienzle Fig. 10) is established by the used of elastics (Kienzle, Fig. 10 elastics 198).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LILIANA CERULLO whose telephone number is (571)270-5882. The examiner can normally be reached on Monday to Thursday 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on 571-272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. C./

Examiner, Art Unit 2629

/Amr Awad/

Supervisory Patent Examiner, Art Unit 2629